

ABSTRACT OF THE DISCLOSURE

An Ethernet mapping enables high speed Ethernet data streams having a data rate of 10Gb/s to be transported across a synchronous packet switched network fabric having a standard SONET OC-192 line rate of 9.953280 Gbaud. The 10Gb/s Ethernet data stream is compressed by removing interframe gaps between successive MAC frames to produce a compressed data stream, which is then mapped to a synchronous container. The synchronous container is then launched across the synchronous packet switched network fabric at a standard SONET OC-192 line rate of 9.953280 Gbaud. The synchronous container is preferably provided as a stripped STS-192c frame having only A1 and A2 octets of the Transport Overhead (TOH). The compressed data stream is mapped directly to the synchronous container, starting at the first octet following the A1 and A2 octets, without first being inserted into a conventional STS-192c SPE, so that most of the space normally used for TOH and Path overhead (POH) within a conventional STS-192c frame is freed-up for carrying the compressed data stream. At a receiving interface, the compressed data stream is extracted from received synchronous containers and decompressed, by insertion of interframe gaps between successive MAC frames, to generate a recovered 10Gb/s Ethernet data stream. The starting bit of each successive MAC frame can be identified by examination of the length field of the immediately previous MAC frame.

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